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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,031	08/31/2001	Lawrence A. Booth JR.	INTL-0617-US (P11948)	1681

7590

03/24/2005

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EXAMINER

WU, XIAO MIN

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/945,031

Applicant(s)

BOOTH ET AL.

Examiner

XIAO M. WU

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,9-12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-12 and 14-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 4-7, 9-12, 14-16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US Patent No. 6,313,816) in view of Feldman (US Patent No. 6,501,230).

As to claims 1, 6, 11, 16, Kojima discloses a method comprising: determining a color gamut (Ar1, Ag1, Ab1, Fig. 4) that a substantial portion of the sub-pixels (e.g. red, green, blue) of an expressed color of light emitting device display (e.g. LED) are able to achieve; and adjusting the drive current (18, 20, Fig. 3) to the sub-pixels to achieve that color gamut (Ar2, Ag2, Ab2, Fig. 4). Kojima further discloses a processor (17, Fig. 3) and storage ((20). Kojima also discloses using luminance correction and chromaticity correction circuit (14, 17, 16, 20, 21)

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to correct the variation in luminous intensity and chromaticity due to a variation in characteristics of the LEDs..

It is noted that Kojima does not specifically disclose that the Led is an organic LED and does not specifically disclose that the variation of the intensity and color balance is due to the age of the OLEDs . However, correct the intensity variation of the organic LEDs with age problem is well known in the art such as taught by Feldman. It would have been obvious to one of ordinary skill in the art to have modified Kojima's correction circuit with the age correction circuit as taught by Feldman so as to maintain the gamut substantially constant over the lifetime of the display.

As to claims 2, 7, 12, 21, Kojima discloses determining a color gamut that all of the subpixels of an expressed color gamut (e.g. Ar1, Ag1, Ab1) can achieve and adjusting the device current to achieve that color gamut (see Fig. 4).

As to claims 4, 9, 14, Kojima discloses maintaining the gamut substantially constant by mixing a first or second subpixel color with an expressed color pixel to adjust the color of the expressed color pixel (col. 7, lines 28-32).

As to claims 5, 10, 15, Kojima discloses mixing colors of the tricolor space to achieve the color gamut (col. 7, lines 45-66).

4. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. (US Patent No. 6,313,816) in view of Feldman (US Patent No. 6,501,230) as applied to claim 16 above, and further in view of Adler (US Patent No. 5,532,550).

As to claim 17, it is noted that both Kojima and Feldman does not specifically disclose the sub-pixels include conjugated polymers. Adler is cited to teach an organic LED display

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device including the sub-pixels include conjugated polymers (16, Fig. 4). It would have been obvious to one of ordinary skill in the art to have modified Kojima as modified with the structure of the organic LED as taught by Adler because Adler provide low resistance conductor and line conductors at a plurality of points (col. 3, lines 25-32).

As to claim 18, Adler discloses the sub-pixels include a polymer film (16).

As to claim 19, Adler discloses the display includes sub-pixels in the forms of a stacked layer (17, 18, 19, Fig. 4).

As to claim 20, Adler discloses a substrate wherein the sub-pixels are distributed side-by-side across the substrate (12a, 12b, Fig. 4).

Response to Arguments

5. Applicant's arguments filed 11/15/2004 have been fully considered but they are not persuasive. Applicant argues that Kojima does some type of analysis to initially design the product and there is no indication of any type of software or hardware that does any type of determination of a color gamut that all the pixels can achieve or even substantially all. This argument is not persuasive because Kojima clearly discloses the luminance correction data is formed by previously measuring the characteristic of the three primary colors by the luminance adjuster and stored into the luminance correction data memory 20 in order to adjust the variation in luminous intensity of each pixel of the LED display 19 by a driving current and to reproduce a uniform image in which both the luminous intensity and the light emission wavelength are matched (see col. 3, line 59 to col. 4, line 15). Applicant further argues that Feldman does not teach any type of system in which a color gamut for a substantial portion of the pixel is maintained. This is not true because Feldman clearly discloses that the invention is

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advantageous in that it exhibits a near constant luminance and/or **color balance** for given video voltages as the light emitting materials. Thus, Feldman is also directed to correct the color balance as taught by Kojima.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571 272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK EDOUARD, can be reached on 571 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

x.w.

March 16, 2005



XIAO M. WU
Primary Examiner
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